

HIV

Sexual behaviour, condom use, and disclosure of HIV status in HIV infected heterosexual individuals attending an inner London HIV clinic

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Background: The National Strategy for Sexual Health and HIV for England (2001) emphasised the role of HIV services in reducing secondary transmission of HIV through prevention work with HIV infected people.

Objective: To determine the sexual behaviour, condom use, and disclosure of HIV status of HIV infected heterosexuals attending an inner London HIV clinic.

Design: Cross sectional questionnaire study of heterosexual HIV infected individuals attending an HIV outpatient clinic.

Methods: We collected demographic data for all respondents and sexual behaviour data for those sexually active over the past year using a self administered questionnaire. Viral load and CD4 count for responders and age, sex, ethnicity, viral load, and CD4 count for non-responders were obtained from the clinic database.

Results: The response rate was 47.3% ($n=142$). 100 participants reported being sexually active in the past year, of whom 73% used condoms when they last had vaginal sex. Knowledge of partner's HIV status was the only variable significantly associated with the participant disclosing their HIV status to their partner ($p<0.001$). In those who had disclosed their status, only knowledge of partner's HIV status was significantly associated with condom use ($p=0.03$).

Conclusions: Issues relating to non-disclosure and partner notification in HIV infected heterosexuals will need to be better understood to improve sexual health in this group and to reduce onward transmission of HIV.

In 2002, 57% of all individuals with a new HIV diagnosis in the United Kingdom¹ and 41% of those attending for HIV care acquired HIV by heterosexual sex.² The majority of these people were of either African origin or had a sexual partner from sub-Saharan Africa.¹

The National Strategy for Sexual Health and HIV (2001)³ emphasised the role of HIV services in reducing onward transmission through prevention work with HIV infected people. However, there are few data on the sexual behaviour of HIV infected heterosexuals that could inform this prevention work.

The objectives of this study were to ascertain the sexual behaviour, condom use, and disclosure behaviour of heterosexual HIV infected patients attending a large London outpatient clinic.

METHODS

The study took place in a large HIV outpatient clinic in central London. All heterosexual patients registered with the centre ($n=324$) and attending the clinic during the study period (December 2000–August 2001) were eligible to participate.

We obtained ethics approval from the local research ethics committee.

We conducted a cross sectional study using self administered questionnaires (available in English and French) given to the participants after written consent during a routine outpatient visit. Demographic data for all respondents and sexual behaviour data for those sexually active over the past year were collected. Sex was defined as vaginal, oral, or anal intercourse. Responders' CD4 counts and viral load results and non-responders' age, sex, ethnicity, CD4 count, viral load, and current highly active antiretroviral treatment (HAART) were obtained from the clinic database. CD4 counts were determined by flow cytometry and HIV viral loads (VL) by using the Chiron v3.0 chain branch DNA assay.

Data were entered into Epi-Info 6.0 and Microsoft Excel and analysed using Stata 7.0. For categorical variables χ^2 was used for significance testing except for binary variables with small numbers when we used Fisher's exact test; for continuous variables Student's t test and the Mann-Whitney test were used. Statistical significance was considered as $p \leq 0.05$.

RESULTS

Of the 300 eligible heterosexual HIV positive patients who attended the clinic during the study period, 142 (47.3%) completed the questionnaires. Responders were significantly more likely to be female (66.9% *v* 54.4% non-responders, $p=0.03$) and had a more recent HIV diagnosis than non-responders (median 3.1 years *v* 4.1 years, $p=0.005$) (see also table 1). Of the 142 responders, 95 (66.9%) were women and 89 (63.1%) were Black African, of whom three (3.8%) were born in the United Kingdom.

Of the 100 participants (32 men, 68 women) who reported sexual activity in the past year, most (64%) met their most recent partner in the United Kingdom, were of the same ethnic origin as their partner (71%), and had been with their partner for more than 1 year (78%). Two thirds had been sexually active in the past month. Almost all (97%) had vaginal sex, 25% had oral sex, and 1% had anal sex during their last sexual encounter. The majority (66% of 29 men and 90% of 56 women) had had sex with only one partner in the last year, with only four men and one woman reporting sex with three or more partners in the past year.

Condoms were used by 73% of participants when they last had vaginal sex. Condom use was not significantly associated with gender, ethnicity, undetectable viral load, time since diagnosis, or partner's HIV status. However those with CD4 counts of more than 200 were significantly more likely to use condoms than those with CD4 counts below 200 (77.8% *v* 50%, $p=0.047$). The two most common reasons for condom

Abbreviations: HAART, highly active antiretroviral treatment; VL, viral loads

Table 1 Demographic and HIV related data for responders and non-responders

	Responders (n = 142)	Non-responders (n = 158)	p Value*
	No (%)	No (%)	
Mean age in years (range)	36 (18–63)	37 (17–65)	0.68**
Sex			0.03
Male	47 (33.1)	72 (45.6)	
Female	95 (66.9)	86 (54.4)	
Ethnicity			0.78
Black African	89 (63.1)	89 (57)	
White	39 (27.7)	46 (27.9)	
Other	13 (9.2)	12 (8.1)	
Missing	1 (0.7)	11 (7)	
Born in:			0.34
United Kingdom	31 (21.8)	20 (11.6)	
Rest of Europe	16 (11.3)	10 (5.8)	
Africa	88 (62.0)	68 (44.2)	
Asia	1 (0.7)	5 (2.9)	
South America/West Indies	3 (2.1)	2 (1.2)	
Missing	3 (2.1)	53 (34.3)	
Marital status			0.32
Married/living with partner	53 (37.3)	55 (34.9)	
Single	62 (43.7)	70 (43)	
Divorced/separated	15 (10.6)	9 (5.8)	
Widowed	11 (7.7)	6 (4.1)	
Missing	1 (0.7)	18 (12.2)	
Diagnosed			0.29
within last year	35 (24.6)	31 (19.6)	
prior to last year	107 (75.4)	127 (80.4)	
Median time since diagnosis in years (range)	3.1 (0.1–18)	4.1 (0.1–19.25)	0.005***
On antiretroviral treatment			0.51
Yes	81 (57)	96 (60.8)	
No	61 (43)	62 (39.2)	
Mean CD4 count (cells $\times 10^6/l$) (range)*	388 (20–1150)	399 (0–1560)	0.73**
Median viral load (copies/ml) (range)*	300 (undetectable–289 400)	400 (undetectable–504 500)	0.77***

*CD4 and viral load for 141 responders.

All p values by χ^2 test except ** by *t* test and *** by Mann-Whitney test.

Missing data not included in analysis.

use at last sex (total of 93 replies) were “I did not want to give my partner HIV” (39%) followed by “I did not want to catch another sexually transmitted infection” (32%). Three

people did not want to “re-infect” their partner. The two most common reasons for not using condoms were “My partner doesn’t like using condoms” (13%) and “I don’t like

Table 2 Factors associated with disclosure of HIV status to sexual partner (n = 100)

	No of patients who disclosed (n)/No of sexually active patients (N) % (n/N)	p Value*
Sex		
Male	84 (27/32)	0.76
Female	87 (59/68)	
Ethnicity		
Black African	83 (54/65)	0.34**
White	88 (22/25)	
Other	100 (10/10)	
CD4 count (cells $\times 10^6/l$)		
<200	79 (11/14)	0.41
>200	87 (74/85)	
HIV viral load copies/ml		
<50	84 (36/43)	0.59**
>50	87 (49/56)	
Time since diagnosis		
<1 year	85 (17/20)	1.0
>1 year	86 (69/80)	
On antiretroviral treatment		
Yes	86 (48/56)	0.92**
No	86 (38/44)	
Partner’s HIV status		
Has HIV	100 (48/48)	<0.001**
Does not have HIV	96 (25/26)	
Does not know status	50 (13/26)	
Condom used at last vaginal sex		
Yes	90 (64/71)	0.1
No	77 (20/26)	

*All p value by Fisher’s exact test except ** value by χ^2 test.

using condoms" (6.5%). Alcohol and illicit drug use was cited only by one man and a desire to become pregnant by only one woman as a reason for not using condoms.

In all, 86% of sexually active participants ($n = 100$) had disclosed their HIV status to their partner (table 2). Knowledge of partner's HIV status was the only variable significantly associated with the participant disclosing their HIV status to their partner ($p < 0.001$). Of the 86 participants who had disclosed their HIV status, 48 thought that their partner had HIV (47 known to have had HIV test), 25 thought their partner did not have HIV (23 known to have had HIV test), and 13 did not know their partner's HIV status (three known to have had HIV test). In those who had disclosed their HIV status, only knowledge of their partner's HIV status was significantly associated with condom use ($p = 0.03$). Participants were most likely to use condoms if they thought their partner did not have HIV (91.7% of 24 participants) or thought their partner had HIV (74.5% of 47 participants). Condoms were used by only 53.6% of 13 participants who did not know their partner's HIV status.

DISCUSSION

This study provides information on the sexual behaviour of HIV positive heterosexual adults accessing HIV care in a large UK outpatient clinic. The majority of participants were sexually active. Of these, most met their most recent partner in the United Kingdom and used condoms when they last had sex. However, over a quarter of the participants did not use condoms when they last had sex and this was significantly more common in those with lower CD4 counts although the reason for this is unclear. By contrast with studies from America^{4,5} and Europe,⁶ where drug use is an important factor for higher risk behaviour, in this study alcohol and drugs influenced the decision not to use a condom in only one man. The most common reason for not using condoms—namely, partner or patient objection, has been noted before.⁷ Although most participants were of childbearing age, only one cited wanting to become pregnant as a reason for not using condoms.

Disclosure is an issue for a significant proportion of participants since; 14% had not informed their partners of their HIV status and 26% were unaware of whether their partner had had an HIV test or what their partner's status was. Disclosure of participant's HIV status and condom use was significantly associated with knowing their partner's HIV status. Overcoming the barriers to disclosure remains a formidable challenge for both secondary HIV prevention and early detection of HIV infected individuals.

This study has several limitations. The response rate was low and those who did not respond may have different sexual behaviour from those who responded. However, the responders differed significantly on only two demographic and HIV related variables from the non-responders and are therefore likely to be representative of the heterosexual clinic attendees. The study took place in a single inner city HIV clinic and further research needs to be conducted in different settings. We relied on self reported sexual practices but there is good evidence that self reported data from sexual behaviour studies of HIV infected people are reliable.⁸

In summary, our study findings highlight the importance of discussing sexual behaviour with HIV infected patients to reduce secondary transmission and the need to strengthen efforts to facilitate disclosure of HIV status.

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CONTRIBUTORS

EJ and SSD conceived the study; additional help with study design was provided by JS and DEM; SSD, EJ, and NP distributed the questionnaires; SSD entered and analysed the data and, with EJ, wrote the first and last drafts; JS and DEM provided critical appraisal of the manuscripts.

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COMMENTARY

Although HIV transmission is as much a result of infectiousness as of susceptibility, to date, most HIV prevention strategies have focused on reducing risk among uninfected individuals, even though recommendations have been made to target behaviour change among those who are HIV infected.^{1,2} Recently, additional studies have provided further support for targeting prevention among infected individuals by demonstrating the potential for decreasing infectiousness by reducing viral load through treatment for HIV and other STIs.^{2–5}

Perhaps one reason why such recommendations have not been widely implemented is that few studies have provided empirical data describing risk behaviours in which HIV infected individuals engage. Here, Dave *et al* examined condom use and HIV disclosure among HIV infected individuals who presented at a large STD clinic in inner London. Weaknesses of the study (such as the low response rate and the cross sectional nature of the study) notwithstanding, there are several findings worth highlighting that